

[GIF205] WEB ENGINEERING II

GENERAL INFORMATION

Studies	DEGREE IN COMPUTER ENGINEERING		Subject	PROGRAMMING
Semester	2	Course	3	Mention / Field of specialisation
Character	COMPULSORY		Language	CASTELLANO
Plan	2017	Modality	Adapted Face-to-face	Total hours
Credits	4,5	Hours/week	3.75	67.5 class hours + 45 non-class hours = 112.5 total hours

PROFESSORS

LARRINAGA BARRENECHEA, FELIX

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	(No previous knowledge required)

SKILLS

VERIFICA SKILLS

SPECIFIC

GIE203 - To be able to analyse and assess computer architecture, including parallel and distributed platforms and to develop and optimise the software for these systems

GIE204 - To be able to design and implement systems and communications software

GENERAL

GIGC06 - To be able to devise and develop centralised or distributed computer architectures or systems, integrating hardware, software and networks

GIGC10 - To know how to perform measurements, calculations, valuations, estimates, inspections, studies, reports, task planning schemes and other analogous related activities

CROSS

GICTR1 - To be able to work in multidisciplinary, multilingual environments, and to effectively communicate knowledge, procedures, results and ideas concerning IT, verbally and in writing.

GICTR2 - To be able to do their job in cooperative, participatory environments, with awareness of social responsibility.

BASIC

G_CB2 - To be able to apply knowledge to occupational or professional tasks; have the necessary skills to pose and defend arguments, and to solve problems within their field of study

G_CB4 - To be able to communicate information, ideas, problems and solutions to both expert and lay audiences

G_CB5 - To have developed learning abilities required to embark on subsequent studies with a high level of autonomy.

LEARNING RESULTS

RG301 Assumes responsibilities in the work team, organizing and planning the tasks to be developed, facing the contingencies and encouraging the participation of its members.

LEARNING ACTIVITIES

	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc.	2 h.	2 h.	4 h.
Relating to projects/POPBLs carried out individually or in teams			

EVALUATION SYSTEM

Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence

Comments: Continuous assessment.

W

100%

MAKE-UP MECHANISMS

(No mechanisms)

CH - Class hours: 2 h.

NCH - Non-class hours: 2 h.

TH - Total hours: 4 h.

RG302 Analyze the intervening variables in the problem and propose actions for a stable situation.

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	2 h.	1 h.	3 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANISMS	
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence Comments: Continuous assessment.	100%	(No mechanisms)	
CH - Class hours: 2 h.			
NCH - Non-class hours: 1 h.			
TH - Total hours: 3 h.			

RG194 [!] *Análisis de los impactos de los ODS en el proyecto realizado*

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	2 h.	1 h.	3 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANISMS	
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence Comments: Continuous assessment.	100%	(No mechanisms)	
CH - Class hours: 2 h.			
NCH - Non-class hours: 1 h.			
TH - Total hours: 3 h.			

RG304 Define the problem, develop the solution and present the conclusions in a efficient manner, arguing and justifying each one of them in writing.

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	3 h.	1 h.	4 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANISMS	
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence Comments: Continuous assessment. It may be asked to redo the document.	100%	(No mechanisms)	
CH - Class hours: 3 h.			
NCH - Non-class hours: 1 h.			
TH - Total hours: 4 h.			

RG305 Define the problem, develop the solution and present the conclusions in a efficient manner, arguing and justifying each one of them in spoken form.

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	2 h.	2 h.	4 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence Comments: Continuous assessment.	100%	(No mechanisms)
CH - Class hours: 2 h. NCH - Non-class hours: 2 h. TH - Total hours: 4 h.		

RGI328 [!] Conocer paradigmas, protocolos y tecnologías que posibilitan el Internet de las cosas (Internet of Things).

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc.	1 h.	1 h.	2 h.
Relating to projects/POPBLs carried out individually or in teams			
Individual study and work, tests and evaluations and check points	1 h.		1 h.
Presentation of the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	4 h.	3 h.	7 h.
Individual and team exercises	4 h.	2,5 h.	6,5 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence Written, coding/programming and individual oral tests for the evaluation of technical skills in the field Comments: Minimum grade: 5	10% 90%	Written, coding/programming and individual oral tests for the evaluation of technical skills in the field Comments: Students with less than 5 in the Control point must retake the exam. Control point value will be 25% and retake 75%. Project: There will not be any retake of the individual defense.
CH - Class hours: 10 h. NCH - Non-class hours: 6,5 h. TH - Total hours: 16,5 h.		

RGI329 [!] Saber diseñar e implementar aplicaciones web orientadas a servicios utilizando frameworks

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc.	2 h.	2 h.	4 h.
Relating to projects/POPBLs carried out individually or in teams			
Individual study and work, tests and evaluations and check points	1 h.	1 h.	2 h.
Presentation of the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	14 h.	6 h.	20 h.
Individual and team exercises	10,5 h.	11,5 h.	22 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence Written, coding/programming and individual oral tests for the evaluation of technical skills in the field Comments: Minimum grade: 5	10% 90%	Written, coding/programming and individual oral tests for the evaluation of technical skills in the field Comments: Students with less than 5 in the Control point must retake the exam. Control point value will be 25% and retake 75%. Project: There will not be any retake of the individual defense.
CH - Class hours: 27,5 h. NCH - Non-class hours: 20,5 h. TH - Total hours: 48 h.		

RGI330 [!] Saber diseñar e implementar arquitecturas orientadas a servicios

LEARNING ACTIVITIES		CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams		12 h.	8 h.	20 h.
Individual study and work, tests and evaluations and check points		1 h.		1 h.
Personal study and flexible development of concepts and subjects using active dynamics to promote more meaningful learning		6 h.	3 h.	9 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANISMS		
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence	70%	Written, coding/programming and individual oral tests for the evaluation of technical skills in the field		
Written, coding/programming and individual oral tests for the evaluation of technical skills in the field	30%	Comments: Students with less than 5 in the Control point must retake the exam. Control point value will be 25% and retake 75%. Project: There will not be any retake of the individual defense.		
Comments: Minimum grade: 5				
CH - Class hours: 19 h.				
NCH - Non-class hours: 11 h.				
TH - Total hours: 30 h.				

CONTENTS

Introduction to Web Engineering II (Basic Concepts)

- IoT
- IoT Architecture
- IoT Technology Map

IoT Technologies (data formats)

- Interoperability and its types.
- IoT basics (design, paradigms, protocols, technologies and communication alternatives)
- Data Exchange
 - XML mark-up language
 - XML Schemas (XSD)
 - Java Script Object Notation (JSON)

Service Oriented Web Applications (Java Serialisation)

- Serialisation of Java objects to documents or data interchange files
- JAXB Serialisation
- JSON Serialisation

Service Oriented Web Applications (Web Services)

- Component Frameworks (J2EE)
- SOAP Services
- REST Services
- Deployment of services on servers

Service Oriented Architectures

- ESB (Enterprise Service Bus) Architecture
- ESB Functionality
- Node-RED

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Topic related web quires
 Moodle Platform
 Flipped Learning material and questionnaires
 Subject notes

Bibliography

http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_in k.pl?grupo=INFORMATICA32&ejecuta=15&